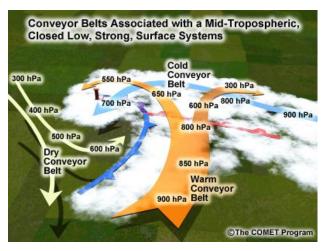
Deformation Zones

A deformation zone is a region of significant stretching in the atmosphere. The stretching is often caused by airstreams flowing toward each other and then fanning out as they meet, as shown in the diagram on the right.

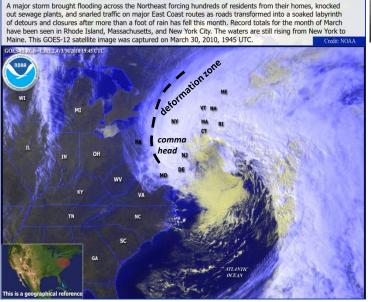


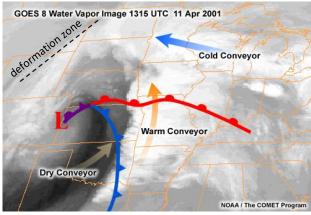
In the diagram on the left we see a strong, welldeveloped storm system. The surface low is in the upper left part of the picture, and warm moist



air is rising as it flows northward ahead of the cold front and then up and over the warm front. As this "warm conveyor belt" rises, part of it wraps around the low pressure and heads west, while another branch turns to the east. Where these two airstreams separate is the deformation zone.

As seen in the diagram above, a "comma head" feature forms where the warm conveyor belt (WCB) overlies the cold conveyor belt (CCB). The WCB, shown by the orange arrow, brings moist air in at high levels, and the CCB, depicted by the blue arrow, brings cold, moist air in at low levels. Heavy precipitation, especially wintertime snowstorms, can fall from the comma head.





The satellite pictures above and to the left show real-world examples of deformation zones and comma head features associated with strong storm systems. Note how cloudiness streams northward ahead of the cold front, lifts over the warm front, and then curls westward around the parent low. In the winter these systems can produce showers and thunderstorms ahead of the cold front, widespread rain north of the warm front, and a band of heavy snow northwest of the low along and southeast of the deformation zone.